Portability: A Determinant of Electronic Knowledge Resource Use*

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Modern day physicians have a wealth of patient care knowledge resources from which to choose. Several studies have examined the determinants of knowledge resource selection primarily with paper-based media [1-3]. Determinants which correlated with use were accessibility (3 types: physical, functional and intellectual) and clinical applicability. We propose to undertake a clinical trial to determine if information portability results in increased accessibility and therefore increased use.

The recent introduction of portable electronic devices has resulted in the availability of portable electronic sources of medical information. Such sources are presumed to have increased physical accessibility at the expense of functionality accessibility (ease of use and searchability). Labkoff, et al. demonstrated significant use of personal digital assistants (PDAs) for information seeking by medical residents [4]. At the same time, computer networks with client-server architecture have made computer application distribution ubiquitous in medical institutions. A study by Osheroff and Bankowitz identified the usefulness of workstation electronic knowledge resources [5]. PC information sources can potentially provide greater functional accessibility but at the expense of physical accessibility.

To examine the role of portability in resource use, we needed to identify an appropriate knowledge resource. We define such a resource as one that is frequently used, credible, acknowledged to have sufficient breadth, and most importantly, is clinically applicable to a wide variety of situations. Additionally, the resource had to be available in portable and non-portable platforms.

The Physician's Desk Reference (PDR) was selected as the knowledge resource. Studies have shown that therapeutic information is frequently sought by physicians [3]. The PDR has been identified in multiple studies as reliable, accurate, credible, and easy to access [1, 2]. The PDR is available in a portable form, the Franklin Digital Book System with the PDR cartridge, and in a PC-based form, the Medical Economics' PDR Electronic Library (CD-ROM). The two forms have the same clinical applicability and intellectual accessibility (understandability) but differ in physical and functional accessibility.

The clinical trial will utilize internal medicine residents on their ambulatory block rotation at the general medicine clinic of Mt. Sinai. Residents were chosen because studies have demonstrated their frequent need for knowledge at the point of care [3]. A pre-trial survey will be administered to determine perceived information needs and to examine preconceptions and prior experience with either platform.

The residents will be assigned to one of three groups: 1.)CD-ROM 2.)Digital Book, and 3.)CD-ROM and Digital Book. Each group will receive a brief training session on how to use the devices. Daily usage of each resource will be recorded. A usage comparison will assist in analyzing the effect of portability (physical accessibility) on use. A post trial survey will be administered to examine the effect of functional accessibility on use and to look at usage perceptions.

Knowledge resource selection and use are determined by clinical applicability and accessibility. The PDR provides an opportunity to evaluate the effect of portability on use with a clinically applicable source. Since the PDR is available in portable and non-portable forms, we can focus our study on the delivery of information (physical vs. functional accessibility) and not be concerned with the content of information.

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